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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

NOTES ON EUROPEAN HOSPITALS.

BY DAVID PRINCE, M. D.

The tendency of modern times is to obliterate the peculiarities of nations and of smaller communities, enforcing a natural selection by which there comes a survival of the fittest. In writing about hospitals one is forcibly impressed with the fact that the field of difference is constantly becoming smaller. As compared with America, the tendency in Europe to change is less, because the force of tradition is greater there than here. This again grows out of the fact of our mixing of peoples and traditions, and the subsidence of the foolish or absurd, like the subsidence of clay in water under the action of currents and counter-currents.

The mixing-ground of America is a grand field of progress in the adoption of the better and the disuse of the inferior. It may be easy for the philosophers of any country to elaborate new or improved methods based upon better conceptions of principles, but to get them adopted—that is a difficulty more easily overcome among a people recently shaken up and recombined.

On landing in Liverpool I proceeded directly to the Royal
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Infirmery, a building erected one hundred years ago, and badly arranged and badly ventilated. There I found Mr. Harrison, —called Mr. according to a custom peculiar to England of giving the title M. D. only to those who graduate in general medicine, while in Scotland it is common for surgeons to have the title, Doctor—I found Mr. Harrison alive with an idea, viz., that of relieving the difficulties arising from enlargement of the prostate by making a straight passage. An operation is made something like that of median lithotomy, and afterward a straight catheter is worn for several weeks, until the healing process is complete around the catheter, which is then withdrawn and the external wound permitted to heal up. For a sufficient time longer a catheter is passed daily through the urethra. The bladder itself is washed out sufficiently often by weak, warm, carbolized water.

In London time permitted me to visit only a few of the hospitals. The particular subject most carefully observed was the general management with reference to the prevention of putrefactive complications in the management of wounds.

In Moorefield eye hospital there was a total disregard of those precautions which are now known under the name anti-septic, in four operations which came under my notice. The operation for enucleation of the eyeball was made in the ordinary way, after which a simple compress was laid upon the closed lids and retained by a bandage passed round the head.

In Charing Cross Hospital the spray was not used in an operation for the removal of the mammary gland. In Guy's Hospital the spray was employed in a circular amputation of the thigh converted into a hip-joint amputation in a case of hip disease.

In both the hospitals for females (the Samaritan and the Free Hospital) the spray was employed but in one case of ovariectomy by Richard T. Smith—attempted and abandoned on account of adhesion and a supposed malignant complication; the spray was kept going, but not directed upon the wound. In another ovariectomy in the same hospital on another day, made by Dr. Hayward Smith, the spray was kept blowing upon the wound.

The sutures employed in Charing Cross and Guy's were silver—the ligatures catgut, even upon parts not to be closed for adhesion; in the Samaritan Hospital for women, silk, and in the Free Hospital for women (Soho Square), silk-woven gut. In all the cases the material was taken from a solution of carbolic acid and immediately used. Iodoform was employed upon the external surface of ovariectomy wounds in the Free Hospital for women, but not in the interior. The dressing in all the hospitals mentioned was a simplification of the Lister methods. Boric acid was not used in any of the hospitals mentioned.

Paris: I visited the Hotel Dieu twice, the Hospital Necker, the Hospital Laennec, the Hospital Charité, the Hospital de Notre Dame de la Pitié, and the Hospital St. Louis, each once.

There is a great similarity in their general administration. The floors are uniformly waxed, and each patient has generally a bottle of wine, or at least the bottle which contained it. The food is plain, but abundant; the bouillon or soup is never absent and meat and potatoes are in sufficient allowance. The antiseptic management of sponges and dressings is every where introduced. The spray apparatus was seen in each hospital visited, but it is not generally employed in connection with operations. The ligatures have been uniformly of silk and the sutures of silk or silver. In the reduction of two sub-glenoid dislocations of the humerus in the Hospital St. Louis I saw in use a modification of Jarvis's adjuster, which seemed in no way superior to the American apparatus, except there is an attachment of a dynamometer so that the force is recorded. This is more useful for a scientific statement than for practical utility. The apparatus is constructed by Matthieu, and it was worked by a representative of that establishment. In both cases the reduction was secured by the tension of eighty kilograms or about one hundred and sixty pounds.

Generally there appears less tendency to adopt new measures and expedients in the Parisian hospitals than in those of London, and in those of London less than with us.

Geneva, July 8th: There is one principal hospital for Geneva,

which has a population of about fifty thousand—this is the Hospital Cantoniére. Dr. Juillard is the principal surgeon of the hospital, and at the time of the Franco-German war many wounded soldiers were received at Geneva. Dr. Juillard succeeded in establishing on the grounds of the hospital barracks hospitals of a permanent character. The roofs are shingled, with openings from end to end near the ridge, made by elevating the upper portion of the roof above the plane of the lower portion. The ends and sides are open in fine weather, and closed in unpleasant weather by sail-cloth, which can be put upon a slant or rolled up at pleasure. These barracks afford in the summer time the comfort of a house with the ventilation of the open air. For typhoid and infectious fever and for surgical cases they meet a great necessity. There are nine of them in this establishment occupied respectively by the men, the women, and the children. The surgical cases are kept separate from the medical.

These barracks are fifteen meters (fifty feet) long, seven meters (twenty-three feet) wide, and the floor is raised two feet from the ground with a free circulation of air beneath. Dr. Juillard is very enthusiastic over this arrangement, and the wards are emptied into them to the extent of the capacity of the barracks. The wards in the building thus have an opportunity to be aired for several months and to lose any infection which they may have acquired during the winter.

I afterward saw similar barracks in connection with the Hospital Charité and the Augusta Hospital in Berlin. In the Augusta Hospital they are made a large element in the summer accommodation for patients, but they are inferior in construction to those seen at Geneva, as there is no ventilation under the floors, and they are not capable of being completely thrown open to the free air in pleasant days.

The hospital at Lucerne is a very old structure, but it is kept in a commendable state of cleanliness.

That at Zurich is a new structure, and I happened to see Dr. Kroenlein make an exploratory abdominal operation. Finding

some other structure than that of an enlarged ovary, he closed the wound with silver wire sutures, plaster, gauze compress, and bandage. Catgut was employed for ligatures, and the final closure was secured by silver wire with buttons upon the cutaneous terminations of the sutures; the sponge had been soaked in carbolic acid. No spray was employed and no arrangement for a damp condition of the air of the room. The extremities were wrapped in cotton batting to keep them warm.

The Hospital Charité, in Berlin, is of great extent. Most of it is old, but there is a new structure erected expressly as a department for female surgery. The operating-room (like that at Zurich and like those of several other new hospitals) is floored with a concrete mosaic supposed to be non-absorbent of the fluids falling on the floor. In the general surgical department, the operating-room of which is old, the floor is of wood, painted, the cracks of which appear as if they might absorb septic material and retain it, to give it out again by evaporation.

In the hospital of the university clinic (another hospital) the concrete floor is made to incline toward the center, where there is an opening to receive all the fluids that fall upon the floor. This leads to a habit of letting all the fluids fall upon the floor without any attempt to receive them into receptacles, the spatter falling on the feet and trousers of the operator and the dressers, presenting a disgusting appearance of uncleanness. Add to this the banishment of sponges and the supplement of gauze in all cases in which sponges are ordinarily used; at the conclusion of a series of wound-dressings the whole floor is strewn with the cast-off material filled with all manner of corruption.

In the private hospital (for women) of Dr. A. Martin, built at his own expense at a cost of four hundred thousand marks, or one hundred thousand dollars, the operating-rooms have floors of this kind, and the walls have no wood but that of the doors and windows, which are painted so as to be as nearly non-absorbent as possible. One of the rooms is devoted exclusively to abdominal sections.

In the general hospital at Hamburg, in addition to the oper-

ating rooms constructed in this manner, there is one built very recently, apart from the main building, so that several feet of space intervenes between its door and the nearest room occupied by patients. This is devoted to those cases in which the peritoneum is to be opened. These provisions are evidence of the extent to which the idea of septic contamination of the air of inhabited rooms has taken possession of the medical thought of the age.

In the direction of non-absorbent floors for hospital use, there is in the Health Exhibition, in London, a presentation of floors made by saturating hard pine with paraffin. First, there is a concrete foundation, and on this the floor is laid. It is directed that instead of the mode of tongue and groove in common use, the boards are to be beveled all in the same direction, so that the crack shall be slanting. It is supposed that a tighter fit can be secured in this way than in the ordinary style. A specimen is exhibited in which a floor of thin boards has been in use in a window exposed to the sunshine for ten years, and there is exceedingly little evidence of shrinkage of the wood. Medical thought is thoroughly directed toward the adoption of antiseptic precautions in all that surgery in which the occurrence of septic complications is nearly always fatal. In general surgery, in which septic complications are chiefly an inconvenience, the progress is slower in conceiving of the importance not only of antiseptic measures but of the danger of apartments in which the agents of sepsis may be hidden on the surface of floors, walls, and furniture.

In material for sutures and ligatures, silk previously soaked in solution of carbolic acid generally has the preference. In a few instances it was previously saturated with salicylic acid. Catgut was employed for ligatures in Zurich, and Charing Cross Hospital in London. Silver wire for sutures in Zurich. Silk-worm gut-fiber was employed in one operation.

The use of mercuric bichloride was in general use in Berlin as a wash to be dripped over a wound during the progress of an operation by means of a pipe directed by an assistant, and deriv-

ing its supply from a reservoir generally held up by the hand of an assistant. This solution is generally of the strength of one to one thousand. It takes the place of the spray of carbolic acid. In the clinic of Dr. Bardeleben a solution of permanganate of potash was generally employed for washing the hands previous to the beginning of an operation. The strength was such as to afford a purple tint to the water. The strength was not measured except by the eye. No further use was made of it. The nail-brush was every where generally employed for the hands, and generally there was careful shaving and carbolizing of the skin through which an incision was to be made.

As an anesthetic the bichloride of methylene was employed in both the female hospitals of London. A cover is made to fit well over the mouth and nose, into which the vapor mixed with air is blown by means of a bellows, worked by hand or by foot, the air entering at the bottom of the fluid in a bottle and bubbling up through it, carrying the vapor with it. The effect was very satisfactory in all the cases in which I saw it used. The patients, after being once etherized, requested to breathe the anesthetic about half the time.

In one of the hospitals ether was employed in one operation just after the methylene had been employed in a previous operation. The action of the ether was very satisfactory, though the patient breathed the ether a greater portion of time than had been the case in the other operation. Chloroform, however, is the favorite anesthetic in London, given by dropping it upon flannel stretched across a circular loop of wire.

In Paris the anesthetic employed was uniformly chloroform, given upon a square folded napkin held over the mouth and nose.

In the Hospital St. Louis I saw it given by pumping the vapor from a receptacle standing upon a distant table into an inhaler fitting over the nose and mouth. After the patient was placed upon the operating-table the chloroform was continued by dropping it upon a square napkin held over the mouth and nose.

In the Hospital Charité it was given in an operation for cancer of the breast in a manner to indicate fear of its effects. The patient was at first allowed to hold the napkin in her own hands, after which it was held by an assistant. The patient, however, was allowed to be fully awake during the latter half of the operation. She made great outcries, but the operator proceeded without attention to her cries, and without any remark explanatory of the reason for the lack of anesthesia.

In the hospitals visited in other cities upon the continent, chloroform was the only anesthetic which I saw employed. The mode was generally by means of flannel stretched across a wire concave frame, so that the nose projected into it.

No fear of the occurrence of a catastrophe in the use of chloroform was generally exhibited. In an operation for the removal of a testicle by Dr. Bardeleben, in the Hospital Charité, in Berlin, the patient ceased to breathe. An assistant applied forceps to the tongue and drew it forward, and another assistant immediately applied the poles of a galvanic battery (which always stood ready in a convenient place) to the opposite sides of the neck, permitting the induction current to flow once in about four seconds. The effect was to cause a contraction of the chest and a raising of the arms, with a contraction of the forearms. Dr. Bardeleben went on with the operation without any expression or appearance of alarm. By the time the operation was completed the respiration had become pretty well established. Dr. Bardeleben, however, took the poles into his own hands and varied the application, producing various contractions of the included muscles. No attempt was made to change the patient from his position upon the back, much less to practice the ready method. No explanation whatever was made, nor was any thing said to indicate that any thing unusual was happening.

Not seen in Europe: Among the things not seen in the hospitals of Europe I visited, are: A good mode of suspension in the treatment of fractures. In the Hospital Charité, Berlin, Dr. Bardeleben spoke of the extension practice there as a thing

derived from America. The mode is that originally introduced by Dr. Buck, of New York, consisting in a horizontal pull by a cord and weight over a pulley. In some fractures of the thigh in children a mode of suspension was practiced by a band under each popliteus, suspending it to a cross-bar above while the ankle was attached to a foot-pin by means of another bandage. The suspension as practiced by Dr. Nathan N. Smith, or as improved by Dr. John T. Hodgen, was nowhere seen employed. A good method of attaching plaster to the leg was nowhere seen in the treatment of fractures, notwithstanding the method of employing a tin splint for plaster in orthopedic practice, as introduced many years ago by Dr. Barwell, in his little book on the treatment of club-foot. The employment of the gypsum bandage is every where in common use for fixation in fractures and in all cases where it is desirable to secure immobility.

A practice of dusting iodoform into wounds as an antiseptic precaution, very common with us, was not seen in the hospitals I visited in Europe, though the practice originated in Vienna. In many cases, however, I saw this agent dusted on after the completion of the sutures.

The application of hot water for the arrest of hemorrhage in the course of surgical operations was not seen resorted to, although it has become a daily practice with us. I saw (in the Charing Cross Hospital, London) many minutes consumed in tying small arteries after amputation of the breast which would have immediately closed up by the application of hot water. With us it has become common to apply boracic acid directly to wounds not expected to heal by first intention, and to apply the same agent to suppurating wounds as an antiseptic absorbent at the same time. This was not seen done in Europe.

The employment of borated cotton was occasionally seen as an application over the immediate dressing, which was generally a non-adhesive plaster laid as a narrow strip along the course of the suture. In a few instances the yellow adhesive plaster was applied transversely to the line of suture in the old-fashioned way.

In ovariectomy it has become the practice in America, originating in New York, to turn the patient on her side at the time of evacuating the fluid contents of the cyst in order that it may not be accidentally spilled into the abdominal cavity. Several operations of this kind came under my observation, by Knowsley Thornton, Richard T. Smith, and Hayward Smith, in London, and by Dr. Krönlein, in Zurich, and Dr. Gusserow, in Berlin, but in all the cases the patient was kept from beginning to end on her back. In one case in London, the patient was strapped to the table by a broad leather band passing over the thighs and under the table.

JACKSONVILLE, ILL.

TRACHEOTOMY FOR A FOREIGN BODY IN LEFT BRONCHUS.

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Jacob Zinsmeister, age forty-two years, weight one hundred and seventy-five pounds, while eating soup, February 28, 1884, had some foreign body, the nature of which was not suspected at the time, to enter his trachea. It gave but little trouble at the moment, and practically none until March 7, 1884, at 9:30 P. M., when paroxysms of cough accompanied by a sense of suffocation, with expectoration of frothy bloody sputa occurred. I saw him on March 8th, with his family physician, Dr. Buckle. We found on that day sputa still bloody; respiration, labored, the vesicular murmur of left lung being almost entirely absent. Fearing the return of the foreign body and its engagement in the rima glottidis, with a fatal termination, we advised tracheotomy as a safety-valve, and naturally with some hope of the removal of the foreign substance. His family objected to the operation. The unfavorable symptoms increased so rapidly though during the day, that we

were summoned that afternoon to operate. There was nothing new in the method of operating; local anesthesia was used; all passed off well; hemorrhage only slight. Trachea was exceedingly sensitive to touch. In attempting to use a small laryngeal mirror through the tracheal wound to endeavor to discover location of foreign body, tremendous paroxysms of coughing were brought on, so severe as to excite great apprehension. Of course no tube was used; instead, two strong threads were passed deep into the tissues through the edge of the incision in the trachea, one on each side, and to these pieces of tape were attached, and instructions given to the nurse as to their manipulation in case of danger. The wound was kept open for two or three weeks by frequent separation of its lips; carbolized lint laid over it. During most of this time breathing in the left lung was completely obstructed. To March 20th pulse ranged from 90 to 132, temperature from 102.5° to normal, at which it was the last day I visited him. Respiration reached 56 March 17th. It was normal the last day I saw him; that of left lung almost completely restored. The wound was now allowed to close with the hope that the foreign body had been disposed of in some way; we never for a moment suspected the foreign substance to be bone, as the patient's wife had asserted positively there was none in the soup he was eating. Some few days before I ceased my visits a piece of cartilage of considerable size passed through the wound; this we surmised was the foreign body. The wound healed kindly. A short time after I discontinued my visits, he went to work. In two weeks he gained six pounds in weight. On May 1st, Dr. Buckle was again called in. He found pulse 120, temperature 102.5°. Patient complains of alternating chilliness and heat; has cough and expectoration of yellow mucus mixed with pus; weight had fallen to 140 pounds. This is the last record we have of the case until we hear of his death, July 6th. Dr. Krim, the then attending physician, procured at the post-mortem the trachea and part of left bronchus, showing that the foreign body was bone and the point at which it had seemingly been

impacted. Five days before death, Mr. Z., while coughing violently, expectorated a mass of mucus and pus containing the piece of bone, which measured five eighths of an inch in length, about one half an inch in width, and three eighths of an inch in thickness, being about the size of the average rima glottidis. It is marvelous that a foreign body of such size could pass both ways with so little discomfort. The left lung was completely broken down.

A question of importance here presents itself: Is tracheotomy justifiable under such circumstances?

Dr. Weist, of Indiana, in a paper read before the American Surgical Association, June 1, 1882, on Foreign Bodies in the Air-passages, based on 1,000 cases, draws the following conclusions:

1. When a foreign body is lodged either in the larynx, trachea, or bronchia, the use of emetics, errhines or similar means should not be employed, as they increase the sufferings of the patient, and do not increase his chances of recovery.

2. Inversion of the body and succussion are dangerous, and should not be practiced unless the windpipe has been previously opened.

3. The presence simply of a foreign body in the larynx, trachea, or bronchia does not make bronchotomy necessary.

4. While a foreign body causes no dangerous symptoms bronchotomy should not be performed.

5. While a foreign body remains fixed in the trachea or bronchia, as a general rule, bronchotomy should not be practiced.

6. When symptoms of suffocation are present, or occur at frequent intervals, bronchotomy should be resorted to without delay.

7. When the foreign body is lodged in the larynx, there being no paroxysms of strangulation, but an increasing difficulty of respiration from edema or inflammation, bronchotomy is demanded.

8. When the foreign body is movable in the trachea and

excites frequent attacks of strangulation, bronchotomy should be performed.

I shall feel it my duty in all such cases to advise tracheotomy. I think the dangers of such an operation almost nothing when the subject is in a reasonably good condition.

THE COMMUNICABILITY OF PULMONARY TUBERCULAR CONSUMPTION.*

BY G. W. M'CASKEY, A. M., M. D.

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It is proposed in the present paper to touch in a very elementary way upon a few of the arguments which have been brought forward to establish the communicability of pulmonary phthisis, and to emphasize one or two practical hints as to the means of preventing the spread of the disease by contagion. The contagiousness of pulmonary phthisis can best be decided by experimental and clinical evidence.

As furnishing a rational basis for evidence of an experimental nature, the bacillus theory of the causation of tubercular phthisis should be first considered. Regarding this theory there are two main questions involved: First, the existence in tubercular growths of a bacillus distinguished by its reaction and form from other species; and, second, the relation, whether of cause or effect, which it bears to the morbid process. Although the evidence on the first of these questions is somewhat conflicting, I think a careful study of the subject can not fail to prove that there is a peculiar organism constantly associated with tubercular change. That the subject has made more than a transient impression upon medical literature is shown by such facts as these: Professor Flint, in the last edition of his work on the Practice of Medicine, discusses the question in

*Read before the Allen County Medical Society, May, 1884.

its bearings on the etiology, pathology, diagnosis, prognosis, and treatment of pulmonary tuberculosis in an exhaustive manner; while Professor Gibbes, of Westminster Hospital, London, in his work on Histology and Pathology, devotes two chapters to the bacilli of tubercle and anthrax. It seems to me difficult to avoid the conclusion that such investigators as have failed to find the bacilli of tubercle do so because they are not dealing with genuine tuberculosis. As Magnin says, "Their absence in the few cases can be explained on other grounds." For instance, they may and probably do disappear in the older, non-progressive, or retrograde masses.

But many who admit the existence of a peculiar bacterium claim that it is a result of the disease, and grows because the soil is favorable. This question must be very largely decided by experimental pathology; because, in microscopic examinations, it is often a matter of doubt as to which ante-dates the other. But if the morbid process is the direct result of the organism, this fact is capable of demonstration within certain constantly diminishing limits of error.

The production of tuberculosis by the inoculation of tuberculous matter manifestly proves nothing regarding the properties of the micro-organisms. It simply proves the communicability of the disease, but it does not indicate the histogenetic or chemical factor in which the virus resides. Culture experiments, those in which a small quantity of tuberculous matter is placed in a nutrient infusion and inoculation practiced with the product, are open to the same objection. It matters not how much the virus may be diluted; we still remain in as entire ignorance of the toxic dose of the poison as we are of its nature. The septic poisoning which results from the prick of a contaminated needle, for instance, teaches how infinitesimal is the quantity required to produce fatal results.

It is impossible by the method under consideration to entirely eliminate tissues in which bacteria are found. While the obstacles to the isolation from the tissues of objects so minute as bacteria appear at first sight insurmountable, the method of

cultivating them on solid media under the eye of the observer, and with all other needed precautions, would seem to perfectly fill all requirements. For example, on the smooth surface of solidified blood serum, or gelatine containing meat infusion, a few bacteria are planted by making a slight scratch with a pin previously dipped in the infusion under investigation. In doing so of course the medium in which the bacteria existed is planted at the same time. The process of elimination has not yet commenced. In a variable length of time, depending on the species of bacteria, the temperature, and perhaps other conditions, the developmental process goes on, and the bacteria multiply in number. But multiplication means extension; and the newly formed cells crowd over the semi-solid mass in every direction. Now it is fair to assume that bacteria, two or three hundred removed from the original point of infection, have freed themselves by their peculiar process of growth and locomotion from every trace of matter with which they were originally in contact. But the process does not stop here. Some of the most distant bacteria are removed to a fresh soil, and the same thing repeated again and again until contamination of the bacteria by the original solution or tissue is scarcely possible. The blood serum or gelatine, containing meat infusion, has been thoroughly sterilized by the process of discontinuous heating, and is therefore assumed to be perfectly free from organisms. As a result, the bacteria are contained in a perfectly pure medium, entirely eliminated from the soil in which they originally grew. Any such morbid results as follow inoculation of bacteria thus developed, can not logically be assigned to another cause. If like results follow experiments made with these as follow the inoculation of tubercle, it is then demonstrated that the *materies morbi* which the latter contains was either bacteria or the products of bacterial growth. Experiments made by introducing bacilli into superficial parts are more readily studied and more easily controlled. If now transparency be added to accessibility, the conditions are entirely favorable to accurate and trustworthy observation. Just these conditions, as is known, are met with in the anterior chamber of the eye.

The investigations of Watson Cheyne have been selected as representative of the best work done, perhaps, with tubercle. Before Mr. Cheyne began his experiments he visited the laboratories of Koch, Toussaint, and others. Koch, it is unnecessary to say, placed his material, methods, and laboratory entirely at Mr. Cheyne's disposal.

When Mr. Cheyne returned to London he brought with him the necessary material for farther study. He had acquired all of Koch's methods and adopted them. He rubbed up a small quantity of blood serum, which by careful microscopical examination had been shown to contain absolutely nothing but the bacilli under investigation, with boiled distilled water. An almost infinitesimal quantity of this was injected into the anterior chamber of the eye. The traumatism produced by the needle rapidly disappeared. The eye remained for a short time seemingly well; but at the end of a few days a slight opacity developed at the point of injection, and this opacity proved to be true tubercle, which rapidly involved the whole eye, and in due time showed itself in other and distant parts. Now, to what other possible cause than the injected bacilli can the tubercle be due? The time which elapses between inoculation and development depends directly on the number of bacilli injected. If one eye receives more than the other the morbid process in that eye will begin sooner and progress more rapidly. Germicides mixed with the bacilli before injection have, as would be supposed, a markedly retarding and even preventive power over the development of the tubercle.

The numerous experiments in which tuberculous material was inoculated beneath the skin, converted into spray and inhaled, and introduced with food, with the pretty uniform production of the disease, are too familiar to require more than a passing notice.

The only two avenues of escape from this demonstration that tubercle is a specific disease, and can be produced by Koch's micro-organism are, first, the uncertainty regarding the histology of tubercle; next, that it may be produced by non-

tuberculous matter. The question of its histology will be discussed by quoting, in my opinion, Cohnheim's assertion, "there is no anatomical definition of tubercle."

The production of tubercle by inoculation with non-tuberculous material requires more than a passing notice. Dr. Andrew Clark and, later, Dr. Burdon-Sanderson, by experiments of this nature threw considerable doubt over the reliability of Villemin's conclusions. Dr. Sanderson succeeded repeatedly in producing tuberculosis not only by injections of non-tuberculous tissues, but by a seton of unbleached cotton. In like manner Dr. Wilson Fox produced tuberculosis twenty-five times in sixty-four experiments by the insertion of various healthy and diseased tissues, etc., three out of twenty-four insertions of silver wire being successful. Cohnheim and Franckel fully confirmed these experiments, but the atmosphere of their laboratory had become putrid by experimentation, and when their experiments were done in a different atmosphere they succeeded in no instance in producing tuberculosis by the use of non-tuberculous matter.

The explanation of Cohnheim's and Franckel's failure to verify the specificness of tubercle thus furnishes the most remarkable support to a theory of which Cohnheim is now a supporter.

My object, as stated in the beginning of my remarks, is simply to present here what is believed to be the present status of the question, with examples of the evidence on which it rests. Even from the brief resume given I think it may be safely asserted that Koch's bacillus is constantly associated with tubercle, and that it is a cause of tuberculosis. Yet it would be unjust to contend that the inoculability of tuberculosis proves also its communicability by contact, notwithstanding that experiments on dogs made tuberculous by inhaling atomized tubercle would seem to prove the possibility of inhaling the virus, and thus contracting the disease. It also seems fairly demonstrated that the sputum does commonly contain the bacilli.

The question then resolves itself into this: Does the subject of tubercular consumption exhale the virus? It may be answered that in ordinary, quiet breathing the bacilli are probably not exhaled. But, as we all know, quiet breathing is not the rule in patients whose lungs are breaking down; all such persons have in addition to diminished air area more or less cough, by which both mucus and broken-down tissue containing the tubercular virus are expelled. This sputum in time dries, becomes disseminated in the near atmosphere, and may be taken into the lungs of others and thus produce tuberculosis in persons who were previously healthy. That such is the case I believe there is no reasonable doubt. M. Vignal has recently produced tubercle in healthy guinea-pigs from the sputum of phthysical patients collected from the street pavement.

I am aware that it is urged against this view that, were it correct, tuberculosis would be far more common than it is. Yet, when it is remembered that three millions of lives are annually destroyed by tubercular consumption, the number surely appears sufficiently large to satisfy every requirement in this direction. There is abundant evidence that tuberculosis is developed by using the milk from cows, themselves the subject of pearl disease, or bovine tuberculosis, especially if the udders are involved. We furthermore know that the belief in the contagiousness of phthisis has long had a hold on the popular mind; and that while popular beliefs are not always wholly true, they almost invariably have some basis in fact. The number of instances in which healthy men have apparently contracted the disease from tuberculous wives, and *vice versa*, certainly lends great weight to this belief.

The question of prevention here presents itself. Isolation of the subjects has, very properly I think, been condemned as both cruel and unnecessary. But certainly something ought to be done. Complete destruction of the sputum should in all cases be insisted upon. Attendants should be warned against such close contact with consumptive patients as would lead to their breathing the air expired by them, and this warning be espe-

cially insisted on if the patient has the slightest cough. Respirators of sponge or other material should be used if the cough be considerable, and if properly medicated would not only avert contagion but in some cases benefit the patient.

To summarize: The inoculability of tuberculosis having been admitted, and the exact nature of the virus clearly demonstrated, its communicability by contact becomes more than probable. The sputum having been shown under certain conditions to contain the bacilli, constitutes when dried and pulverized a part of the atmospheric dust and its inhalation is *certainly a possible cause of pulmonary phthisis*. To guard against these dangers the breath of consumptive patients should be carefully avoided, and the sputum of such persons systematically destroyed by burning or other efficient means.

FORT WAYNE, IND.

EXCISION OF PATELLA—A CASE.

BY W. M. FUQUA, M. D.

In August, 1877, I visited Betty H., aged twelve years, the daughter of a well-to-do farmer. I found her pale and emaciated from long in-door confinement, sleepless, and restless; was propped in an arm-chair, with feet resting upon a stool, right knee-joint much swollen, with fluctuation, and flexed at a right angle. A small sinus opened on the outer margin of the patella, through which the bone was discovered to be carious with its attachments loose. She was of scrofulous diathesis, and had a brother with caries of the tarsus, though the disease was ascribed to slight injury in both cases.

I made a linear incision an inch long in the axis of the limb directly over the patella, and with a few touches of the knife freed the bone from its attachments and removed it. The joint was opened in the operation, and its contents, serous and of a deep straw color, escaped to the amount of four ounces. After

washing out the joint with a two-per-cent solution of carbolic-acid the edges of the wound were carefully approximated with adhesive strips, over which a firm bandage was applied, and directed to be kept continually moist with the carbolic-acid solution. The patient was placed in bed and given a full dose of Dover's powder. The limb continued in a semi-flexed position. Passive motion was enjoined and the dressing not to be removed for five days, provided no pain occurred. The wound united in the course of a few days, and the joint was free from pain and swelling. The syrup of iodide of iron and tincture of bark brought the patient rapidly up, with such motion of the knee-joint as to soon enable her to walk in perfect comfort. In the *International Encyclopedia of Surgery*, vol. iv, Ashhurst reports seventeen cases of excision of patella, tabulated by Heyfelder, Bœckel, Knode, Wood, Gay, and Agnew; of this number three are said to have proved fatal, three to have required subsequent amputation, while eleven terminated successfully. I am glad to add another successful case to the list.

HOPKINSVILLE, KY.

Reviews.

Fat and Blood: An Essay on the Treatment of Certain Forms of Neurasthenia and Hysteria. By S. WEIR MITCHELL, M.D. Third edition. Philadelphia: J. B. Lippincott & Co. 1884.

In the preface to the present edition of this sterling work, the author states that he has rewritten parts of the book, and has enriched it with many practical hints concerning the use of milk.

In a notice of the work when it first appeared we stated that Dr. Mitchell had made in the method he originated a substantially valuable addition to therapeutics, the importance of which was at that time perhaps hardly appreciated. A third edition of the compact little volume attests the interest which its teachings have excited, while the general adoption by the profession, both at home and in Great Britain, of the practice which it inculcates has done much to lessen the sufferings of the class for which it was especially written.

Diphtheria, Croup, etc.; or, The Membranous Diseases: Their Nature, History, Causes, and Treatment; with a Review of the Prevailing Theories and Practice of the Medical Profession; also a Delineation of the New Chloral-Hydrate Method of Treating the Same, its Superior Success, and its Title to be considered a Specific. By C. B. GALENTIN, M.D. Cleveland, O.: Printed at the Publishing House of the Evangelical Association. 1884.

Had the author of this book brought it to an end with the "Chloral-hydrate method of treating" diphtheria and croup, and made no claim to chloral being a specific in these affections, he would have furnished an interesting and instructive volume,

for his account of the nature, history, etc., of these and other membranous diseases shows research and discrimination.

Within a period of about nine years the author has, he tells us, treated over five hundred cases of well-marked diphtheria with chloral-hydrate with a loss of less than two per cent—which, to paraphrase a reply of Mark Twain to a noted verbal colorist, merely means that some diseases are more abundant in some towns than in others, and some medicines effect more cures in some men's hands than in others. Under the treatment in general use, and which our author had employed up to the time when he discovered the powers of chloral, the mortality in his diphtheria cases was about that of physicians generally, that is, twenty-five to thirty-three per cent. The mode of giving chloral pursued by Dr. Galentin is in small doses repeated often enough to produce its full hypnotic effect. This condition is to be kept up until the nausea, headache, difficulty of swallowing, fever, etc., disappear.

Hand-Book of the Diagnosis and Treatment of Skin Diseases. By ARTHUR VAN HARLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With two colored plates. 12mo, pp. 282. Philadelphia: P. Blakiston, Son & Co. 1884.

The author of this conveniently small work is a physician, who, having had abundant opportunity to acquaint himself with the diseases of which he writes, has embodied his experience within a compass and with a practical directness which fits it for the general practitioner and makes it especially useful as a work of ready reference.

It is a book on diseases of the skin wherein pathological anatomy is not mentioned, and questions of etiology but lightly touched on; and, what is almost as noticeable, where the commonest affections and those giving most distress and annoyance to the patient have been treated at full length, and the rarer dis-

eases dealt with briefly. These features commend it to the every-day practitioner for whom it was written, and no better book could be placed on his library table.

Hooper's Physician's Vade Mecum: A Manual of the Principles and Practice of Physic, with an Outline of General Pathology, Therapeutics, and Hygiene. Tenth Edition, revised by WM. AUGUSTUS GUY, M.D., Cantab., F. R. S., Fellow of the Royal College of Physicians, etc., and JOHN HARLEY, M.D., Lond., P. L. S., Fellow of the Royal College of Physicians, etc. Vol. I. 53 illustrations, 8vo, pp. 338. New York: Wm. Wood & Co., 56 & 58 Lafayette Place. 1884.

The May number of Wood's library appears under the above title. The work, we are told in the introduction, is intended to be, in the largest sense of the term, a practical work, and is believed to contain those items of information which the practitioner would most desire at the bedside, or when studying a case with an eye to its treatment.

The volume before us is reprinted from the tenth English edition, which itself is of very recent issue, and may therefore be safely assumed to contain whatever is latest in medicine.

Text-Book of Medical Jurisprudence and Toxicology. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. 12mo, pp. 597. Philadelphia: Blakiston, Son & Co. 1884.

The name of the writer of this text-book is a sufficient guarantee that the work contains all that is soundest and best in the subjects of which it treats. The book will prove a ready help to both the doctor in medicine and the doctor in law, and should be in the hands of all in either calling who desire to keep abreast with medical jurisprudence and toxicology.

Materia Medica and Therapeutics: An introduction to the Rational Treatment of Disease. By J. MITCHELL BRUCE, M.A., Aberd., M. D., London. Philadelphia: Henry C. Lea's Sons & Co. 1884.

Every number of this series of English "Manuals for Medical Students" that has been republished in this country has been a useful book. The present volume has evidently been prepared by one who understands the wants both of the practitioner and student who is preparing for the green-room. Publishers who bring out such books in a way so pleasing to the eye render a real service to the profession.

Visions of Fancy. A poetical work. By N. M. BASKET, M.D. St. Louis, Mo.: Commercial Printing Company. 1884.

It is pleasant to know that there are physicians who, in the midst of work which incites neither imagination nor fancy, still cultivate the poetic faculty. The author of the present little volume affords an instance of a doctor engaged in active practice who has found time to write many creditable verses and some genuine poetry. The book is well worth reading, and we hope will find many purchasers both in and out of the profession.

Fifth Annual Report of the State Board of Health of Illinois. Springfield, Illinois. 1883.

Dr. John H. Rauch, the Secretary of the Health Board of Illinois, has furnished in the foregoing report a model for such work which it would be well for secretaries of similar organizations to copy. We would consider it a wise expenditure of money on the part of the State to place the volume in the hands of every householder within its limits.

Clinic of the Month.

THE PLASTER-POSTERIOR SPLINT IN THE TREATMENT OF FRACTURES OF THE LEG.—Dr. George W. Gay, of Boston, read, at the last annual meeting of the Massachusetts Medical Society, a paper on this subject which is of such practical interest that we republish it here in full. We are pleased at being able to note that the light which has so long been shining in the West is at last illuminating our brethren in the East.

The ideal dressing for a broken leg must be simple, comfortable, cheap, readily obtained, easily applied and removed, and must allow a frequent inspection of the limb without disturbing the patient. It must be applicable to all cases; capable of correcting any and all deformities, and of retaining the fragments in the desired position for an indefinite length of time; not liable to produce abrasions or other mischief; and once properly adjusted it should require little attention during the progress of the case.

Such an appliance has never to my knowledge been brought to the notice of the profession, but one that seems to combine more of the desirable qualities than any other is the plaster-posterior splint, which has now been in constant use at the City Hospital for several years, and which has become a standard method of treatment in that institution.

The splint is made of sheet wadding, a coarse muslin or crinoline, and plaster of Paris. It may be applied as follows: The leg is washed and dried, and enveloped in the cotton, which has been torn into strips about four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and tendo-Achillis from pressure.

A single layer of the gauze large enough to extend from the

toes to above the knee is to be placed beneath the limb, closely wrapped about it, and cut so as to completely surround it, with the exception of a space about an inch wide on the anterior aspect. This piece serves as a pattern by which the other layers, six or eight in all, are to be made. The muslin is to be slashed on each side opposite the point of the heel to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes may be required to make the dressing fit snugly and smoothly, and to prevent wrinkles.

Fresh plaster of Paris mixed with warm water to the consistency of cream is now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, molded closely and carefully to it and firmly secured with a common bandage. The fragments are to be held in their proper place until the splint has become sufficiently firm to prevent displacement, which with good plaster is not over fifteen or twenty minutes. In some cases this object may be accomplished by means of sand-bags or pillows. In a few hours the outer bandage may be removed, the cotton wadding cut open with scissors, and the appliance is complete, and may be worn with comfort for several weeks.

A certain amount of judgment and tact is required to use this dressing satisfactorily, but no more than is necessary in the treatment of fractures of the leg by any other method. A little experience will enable any one to become familiar with the practical details of applying this bandage, and the field of its usefulness will be found to increase in proportion to one's familiarity with it.

Particular attention is called to a few points in adjusting this plaster case. The greatest pains should be taken to hold the fragments in their proper position until the plaster sets, otherwise they may get displaced, when a new bandage will be required or a deformity will be the result. The foot should be placed at nearly a right angle to the leg, especially if the fracture is at or near the ankle joint. Little padding is required except about the heel and malleoli. Care should be taken that

no wrinkles or folds be allowed to press upon the limb. The splint should reach the metatarso-phalangeal articulation below, and as a rule should extend above the knee, particularly in children, to prevent twisting of the fragments in their long axis, or, in other words, to hold the foot in its natural relation to the knee. It should embrace about three fourths of the circumference of the limb in order to give the desired support, and to retain itself in position.

This dressing is especially adapted to cases of simple fractures of the tibia, or of the tibia and fibula, which are not attended with serious injury to the soft parts, and in which no great amount of force is required to maintain the fragments in their proper place. It is very convenient in the treatment of these injuries in children. Applied under ether it is firm and solid before the patient awakes, and does not require frequent tinkering during recovery, as do many other appliances. The advantages of a dressing which does away with the pain and fright so commonly attending the ordinary treatment of fractures in children can not be too highly appreciated.

Certain cases of compound fracture of the leg can also be satisfactorily treated with the plaster tray, if the soft tissues are not too extensively injured, and if the wounds be so situated that they can be exposed through apertures in the splint for purposes of cleanliness and local applications. For this class of injuries the bandage may be strengthened with strips of hoop iron, lined with oiled silk, and kept in position by means of straps with buckles.

Properly applied to the above-mentioned classes of injury the plaster-posterior splint is comfortable and efficient; it is self-retaining; it holds the fragments firmly in position; it allows the patient to be moved, or to move himself without danger of disturbing the fracture; it permits the parts to be readily examined; being opened throughout its entire length the bandage accommodates itself to the swelling of the limb without danger of strangulation; it can be applied immediately after the accident, there being no necessity for waiting until the inflammatory

stage has subsided; it can be removed and readjusted with ease, and can be worn indefinitely.

Contrary to the teaching of some authorities, the writer believes in frequent examinations of broken limbs until the fragments are so closely joined that they can not be easily displaced. It must be a very exceptional case in which union is prevented by too much manipulation. Broken ribs and collar bones, though necessarily subjected to constant motion, almost always unite well. So do fractures complicated with delirium tremens, or excessive restlessness, or insubordination, in which the parts often sustain great violence.

If the physician would avoid deformed limbs, splint sores, and lawsuits, he must, by personal examination, keep himself constantly informed as to the position of the broken bones and the condition of the soft parts, even at the expense of considerable discomfort to the patient. Temporary pain caused in this manner is of little importance compared to the life-long mental and physical distress which may result from an unnecessary deformity.

The susceptibility to pain differs so greatly in individuals that it is not safe to rely wholly upon their sensations in determining the compression of a bandage. The only safety lies in watching the circulation of the toes, and in making careful examinations of the limb, being guided to a certain extent by the sensations of the patient. It is to be remembered that some persons with a fracture will always complain of pain, whatever treatment is followed. As these patients generally eat and sleep well, and remain in good condition, opiates are to be given sparingly, if at all.

The position of the fragments incased in the apparatus under consideration can frequently be determined by simply sliding the fingers along inside the splint without removing it. But to thoroughly examine the parts the tray must be forcibly sprung open, and the leg carefully lifted out.

As plaster of Paris is brittle, and not elastic, frequent removals of the dressing tend to weaken it. Whenever it becomes

loose from this cause, or from wasting of the limb, it may be tightened with straps, or a new one may be applied. In many instances one bandage is sufficient for the entire treatment.

Not infrequently this dressing is applied to fractures of the leg, at the City Hospital, within twenty-four hours of the accident, and not disturbed until the fragments are firmly united and the recovery is complete.

The results obtained with this method of treatment are probably no better than those following the use of side splints, fracture boxes, etc.; but there is a great saving of time and labor to the surgeon. There is not that necessity for a frequent readjusting of splints and bandages which is so essential with most other appliances.

The writer wishes it to be distinctly understood that this dressing is not adapted to all varieties of fracture of the leg. For example, some cases of Pott's fracture accompanied by marked eversion of foot, requiring strong pressure to restore and retain it in its proper position, can perhaps be better treated by other methods. So likewise may those bad cases of oblique fracture of the tibia, the fragments of which override each other to a great extent. Severe contusions of the soft parts should not be subjected to pressure until all danger of ulceration and sloughing has passed. The presence of blebs or blisters, however, does not necessarily preclude the use of this dressing, as they may often be treated through an opening in the plaster.

It has always seemed to me that those physicians who permit their patients to move about on crutches a few days after an immovable bandage of any kind has been applied to a recent fracture of the lower extremity allow their enthusiasm to get the better of their judgment. The complications liable to occur during the repair of broken bones are so numerous and at times so insidious, and suits at law for malpractice are so common, that in my opinion no adult should be allowed to move about until there is fair union of the tibia and fibula, which usually requires from four to six weeks, and very little weight should be put upon the limb for some time longer. There can be no doubt

that deformity occasionally takes place in these cases from the patient's getting up too soon, while the union is green, thereby allowing the fragments to gradually yield under the weight of the body.

Those cases of fracture of the lower end of the fibula and rupture of the deltoid or internal lateral ligament of the ankle, accompanied with an outward dislocation of the foot, are often very difficult to manage, and require a longer confinement than any other simple fracture of the leg, three or four months being necessary in some instances to insure sufficient repair to prevent future deformity. In some of these cases it is impossible to avoid a little eversion of the foot, whatever may have been the treatment, and however long it may have been continued. The writer has seen recurrence of the dislocation after three months' confinement. He has also seen two or three cases in which the inner malleolus had been exposed by ulceration due to a return of the deformity after a fair union had apparently taken place. He would never permit a person weighing one hundred and fifty pounds to bear his weight upon a Pott's fracture under three months, and the greater the weight the longer should be the period of rest.

A different line of treatment, however, is called for in some cases of fracture of the shaft of the long bones, more especially of the femur. When the union is imperfect at the end of three months or thereabouts, nothing does so much good as to incase the limb in an immovable bandage and get the patient up on crutches. The local irritation which results from this practice tends to excite the reparative process to that degree that the fragments become firmly united in a comparatively short time.

In conclusion allow me to say, that while I do not think the plaster-posterior splint is adapted to all fractures of the leg, yet in the classes of cases specified in this paper I most heartily recommend it, hoping that a fair trial will convince some surgeons, as it has the writer, that the dressing combines more good qualities and fewer bad ones than any of the common appliances in use at the present time.

ON UTERINE HEMORRHAGE AND A NEW METHOD OF TREATMENT.—Richard Richardson, L. R. C. P., Rhayader, read, in the Section of Obstetric Medicine of the British Medical Association, the following: The treatment which has been most successful in my hands during a period of twenty years, and which can be easily applied without any apparatus, consists in iron alum when applied in crystals of the size of a hazel-nut, or even larger in a severe case. It is to be introduced with the finger up to the os uteri (and not into it), and there allowed to remain. The uterus will at once contract, a firm coagulum is formed, and the hemorrhage at once ceases. Iron alum is also antiseptic, as I have removed clots on the fourth and fifth day after its application which were quite free from any disagreeable odor. In a case of very severe hemorrhage, two or three days afterward I inject a little warm water (to which may be added, if you like, a little Condy's fluid) and remove the clots. It is perfectly free from danger, and I have never known it to fail.

Case I. My first application of iron alum was in the case of a woman, aged forty-three, troubled with metrorrhagia for about nine days, and recurring every two or three days; she was the mother of six children, the youngest of whom was four years old; the catamenia had appeared very regularly since she weaned her last. She was sure she had not aborted, as she was "poorly" a fortnight antecedent to the hemorrhage, which was the proper time for menstruation. On examination, I discovered a granular ulceration of the cervix; I treated her with quinine, digitalis, gallic-acid, and sufficient dilute sulphuric-acid to dissolve the ingredients. She was ordered to remain in the recumbent posture with cold cloths applied to the vulva. In three days the hemorrhage again came on. Two days subsequently to this I determined to try iron alum, and introduced a small crystal of the size of a pea; the bleeding ceased at once. On the following day I examined the patient, finding two or three clots in the vagina which were perfectly dry, and which crumbled between the fingers on rubbing them; I injected warm water and examined the os, which was now nearly free from all

granulations. Another piece of iron alum was applied, and there was no recurrence of the discharge. On the fourth day the granular ulceration had thoroughly healed, and the patient was cured. For some time she was very anemic, and required iron tonics; but she soon recovered her strength, and has been well up to this time.

Case II. An abortion happening to Mrs. W., who had given birth to two children previously to this, the youngest being two years old; she was now advanced three months in pregnancy, and awakening one night found herself saturated with blood. I found her in the following state: the napkins and sheets were completely soaked in blood; pulse one hundred and twenty; lips blanched; cheeks pallid. The os uteri was very little dilated, and pains were coming on at long intervals. I applied a crystal of iron alum of the size of a nut to the os; the discharge stopped. Ergot and opium were administered every two hours. On the second day there was no pain and no reappearance of the discharge. The patient slept well during the night; there was no internal hemorrhage; the os was not dilated; pulse ninety-six; ergot was ordered to be continued every two hours. On the third day there was a good deal of bearing-down pain, but no hemorrhage; ergot was ordered every quarter of an hour. Two hours afterward the ovum was expelled complete, and appeared like an old clot; there was no hemorrhage. The patient soon convalesced.

Case III. The next case was one of menorrhagia in a lady, aged forty, the mother of six children, the youngest being four years old. Her last two periods were excessive, lasting seven or eight days, with a slight mucous discharge for some days afterward. I was sent for on the sixth day; she then had a copious discharge of blood. On examining her with the speculum, I found she had endo-cervicitis. I applied the iron alum with perfect success, and prescribed quinine and iron. During the next monthly period she had the same treatment on the fourth day. From that time she quite recovered, and six months later was pregnant. She went to the full term, had

a natural labor, and gave birth to a daughter. The patient recovered rapidly.

From that time to this, I have used the remedy in all cases of uterine hemorrhage where an immediate styptic was required in accidental, unavoidable, and post-partum, as well as in secondary hemorrhage. I shall briefly quote two or three extreme cases to prove its value.

Case IV. I attended Mrs. J. in a previous labor, when she had a frightful post-partum hemorrhage. I then had to inject liquor ferri perchloridi three times before the bleeding stopped. The second time I attended her, and used every precaution during the labor; the hemorrhage appeared notwithstanding, as soon as the placenta was expelled. I injected the perchloride of iron once, but with no effect; I therefore introduced a good sized crystal of iron alum, which stopped the flow at once. I should have remarked that this patient showed all the symptoms of embolism in her first labor, which placed her in extreme danger for twenty-four hours.

Case V. Another case was that of Mrs. P., who lived four miles distant in the country. The child was born before the messenger started, he bringing the intelligence post-haste that the woman was flooding to death. After a hurried journey, I found the patient quite moribund, pulseless at the wrist, cold and completely blanched. The placenta was expelled, and the bed thoroughly saturated; there even was a pool of blood on the floor under the bed, the blood having percolated through every thing. I applied the iron alum at once, and injected sulphuric ether hypodermically into the arm, repeating this in ten minutes. A quarter of an hour afterward the pulse became perceptible in the large vessels. I gave her brandy and milk every half-hour. She had no further hemorrhage; the binder was applied, and I left the woman, with the caution that her head should not be raised from the pillow. Her convalescence was slow, and it was a long time before she recovered her color.

Case VI. I shall here give a short description of a case of
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secondary hemorrhage occurring with Mrs. P., who lived ten miles away. I was sent for in her first childbirth. When I arrived the child was born and the placenta delivered. I asked the nurse where the placenta was; she said, "it is buried." I always like to inspect the placenta, thus knowing whether it is all come. The patient seemed to be going on well; no hemorrhage; there was no pain; the pulse was seventy-eight; and the binder was properly applied. On the sixth day, I was sent for in great haste, as the woman was flooding frightfully. On my arrival I found the patient very weak from loss of blood. I applied iron alum, and prescribed quinine and ergot. Three days afterward a small piece of placenta was expelled together with an old clot of blood; the woman gradually recovered.

I have a record of eighty-two cases of uterine hemorrhage where this remedy was applied without a single failure; menorrhagia, ten cases; metrorrhagia, eighteen; abortions, fifteen; accidental hemorrhage, seven; unavoidable hemorrhage, four; post-partum hemorrhage, twenty-two; secondary hemorrhage, six.

In post-partum hemorrhage, it is advisable always to clear the uterus of clots or any portion of placenta before applying the crystal; also, in accidental hemorrhage, when there is detachment of placenta, should the case appear to be one where there is no chance of carrying it to full term, the membranes ought to be punctured, and the iron alum applied in the usual way. There is no fear of any very great hemorrhage coming on afterward; in a slight case the iron alum will stop it; but, if the hemorrhage should recur, it would be advisable to have recourse to puncturing the membranes, and induce labor. By way of comparison, I shall here enumerate most of the local remedies hitherto used in uterine hemorrhage; namely, the tampon, compression, friction, galvanism or electricity, ice, injection of hot and cold water, cold water applied to the vulva, cold douche on the abdomen, pressure on the abdominal aorta; and last, but not least, the injection of liquor ferri per-

chloridi. Most of these require apparatus for their application, which may not always be at hand; and, in addition, some time would be taken in their preparation and administration. Furthermore, there is the always present danger of injecting a styptic into the open mouths of the uterine vessels; also cold applications, when the body is already too cold, must be injurious. Now, iron alum does not require any apparatus, or any preparation, as it is already at hand; it will bring on immediate contraction of the uterus, which is the chief aim and object in the treatment of these cases; as remarked before, it does not require to be introduced into the uterus, only into the vagina, close to the os uteri, and there left. The preparation is both cheap and effectual.

TREATMENT OF LUNG TUBERCLE.—In a lecture delivered by Dr. G. A. Heron, of the London Hospital for Diseases of the Chest (*Lancet*), he said:

The drug treatment of lung tubercle never enables us to say to any patient, "Take this, and you will surely find that your health will improve." Good results in abundance can be quoted as having followed the use of, for instance, cod-liver oil in lung tubercle; but equally good results could be quoted, I believe, where soda and gentian had been the only drugs prescribed. And I have no doubt, judging from the results of my own observations, that precisely the same remark may truly be made concerning the use of arsenic, the hypophosphites, and numerous other drugs which have had ascribed to them much success in the treatment of lung tubercle. It is true that in certain cases improved health results after the use of drugs, but that is not known till after the event; and we can not foretell with certainty that the use of any drug will of necessity be followed by improvement in the health of any consumptive.

I propose now to lay before you, as shortly as I can, the results of practical importance which those experiments have established in connection with our present purpose. I shall quote observations made by Drs. Ernst Schüll and Bernhard

Fischer, in the Imperial Health Office in Berlin, whose chief is Dr. Koch. The object that these two gentlemen had in view was the ascertaining of how perfectly to disinfect the excreta of tuberculous patients. They established these two important facts, among others: (1) That a five-per-cent solution of carbolic acid in water, mixed with an equal bulk of fresh sputum containing a large number of tubercle bacilli, in twenty-four hours destroyed the virulent properties of the sputum. (2) That ten parts of a saturated solution of anilin in water, freshly prepared, mixed with one part of fresh sputum containing a large number of tubercle bacilli, completely sterilized the sputum in twenty-four hours. Drs Schüll and Fischer established these facts by injecting some of the fresh sputum, before its disinfection, into the bodies of animals, and found that tubercular disease was invariably developed as a consequence in the lungs, liver, and spleen; whereas, after disinfection of the sputum in the way just indicated, no tubercular disease followed its injection into the bodies of animals. Besides carbolic acid and anilin, several other substances were experimented with by Drs. Schüll and Fischer, and among them were some which proved more or less efficient in destroying the virulence of tuberculous sputa. Of these absolute alcohol gave the best results, for it was found that by mixing one part of the infected sputum with ten parts of absolute alcohol, sterilization of the sputa was secured. Corrosive sublimate did not yield satisfactory results, for it was found that the animals experimented upon with this substance died of sublimate-poisoning when they were subjected to an injection of equal parts of a mixture of tuberculous sputa and a 1 in 500 solution of perchloride of mercury. So far as our present knowledge helps us we can only use carbolic acid and anilin in a treatment of lung tubercle founded upon these experiments. The choice of a way of using carbolic acid is limited. I selected inhalation of carbolic-acid vapor as the method of administration; and one of my smaller wards in this hospital has been converted into an inhalation-room. In constructing a chamber for inhalation purposes the simplest con-

trivance has been employed. The window is partly, and the fireplace completely, covered with a screen of coarse cloth in the shape of a roller-towel. These screens dip into a trough, and so are kept constantly wet with a saturated solution of the ordinary commercial variety of carbolic-acid. Near the center of the ward is a gas-stove with a shallow basin upon it containing a quantity of Calvert's No. 4 carbolic acid.

We know very well, from the results of cultivation experiments, that the bacillus of tubercle increases in number with considerable rapidity out of the body, though its exact rate of multiplication is not yet known. We know also, from our observations at the bedside of the consumptive, that the organism forms new colonies with distressing perseverance after it has made its first lodgment in the human lung. When we remember that a mature bacillus contains from two to six spores, and that probably each one of these spores will in its turn become a full-blown organism, and the parent of a numerous progeny; and when, in addition to all that, we call to mind how difficult and how rarely successful is any attempt thoroughly to disinfect or, in Listerian phrase, to "make sweet" a moderately deep wound to which there is easy access from the surface of the body, we can form some estimate of the extreme difficulties that lie before us in our attempts to destroy the growth of the bacillus of tubercle within the lung.

One thing seems clear to me, and that is the absolute necessity of submitting patients night and day, without any intermission, to the action of the vapor of carbolic acid, if we wish to test thoroughly its action in cases of lung tubercle. It must be obvious to every one, after studying the experiments of Schüll and Fischer, and reading Mr. Ansdell's report, that nothing short of strict confinement to the inhalation-room by night and by day and for a long period can be of real use in materially impeding the growth of the bacillus in the lungs. It is upon that condition being distinctly accepted by patients that admissions to the inhalation-room upstairs are granted. Of course certain short absences from the ward must be allowed,

the lavatories being at some little distance from it. During even these short absences the patients are required to wear a respirator, through which they inspire air charged with carbolic-acid vapor. Now, I beg you not to misunderstand me in this matter of the respirator. It is with no object of filtering the air or raising its temperature that I have advised the use of the respirator. The sole object that I have in view is to impress upon the patient's mind that he must keep up the supply of carbolic-acid vapor without a moment's intermission. Perhaps I may as well now tell you that no case of carbolism has occurred among the patients in the ward, and it has been used as an inhalation-room since last January. It is almost superfluous to state that the patient's urine has been carefully watched from day to day.

I much regret that the patients who have passed through the inhalation-room are too few in number to warrant any special reference to them at present. Those of you who are interested in their clinical history are welcome to go into the ward and see and examine the cases. A journal containing a detailed report of all the cases hitherto submitted to treatment there, by inhalation, is on the ward table, and is, of course, open to your inspection. You can therefore, as practitioners of medicine accustomed to the study of disease, form your own opinions concerning these cases. For my own part, I will only say that I find in the record of these cases sufficient encouragement to pursue still further this line of treatment; for I can not shut out from my mind the hope that the road to success in treating consumption, should we ever find it, may be found to lead in the direction which seems to be indicated by Koch's researches.

ON THE REARING OF HAND-FED INFANTS. — Mr. Edmund Owen, F.R.C.S., of London, recently delivered a lecture on this subject at the International Health Exhibition. The chair was occupied by Dr. Charles West, who, in introducing the lecturer, made an eloquent address upon the sacred duty of mothers suckling their own infants. He severely criticised

the system of wet-nursing, by which one infant was robbed of its birthright for the sake of another, whose wealthy and indifferent mother might be shirking her responsibility from mere indolence.

Mr. Owen remarked that probably almost every one would agree with the truth of the general proposition, that for the first half-year of infant life the mother's milk should be the only food for babes; but where a poor woman has to leave her infant in order to earn money for the support of her husband, or where the lady of fashion finds that the claims of society are so strong as to efface the sweet duties of motherhood, the question had to be answered as to the best artificial food. The physiological chemist brought in his answer: Having made an analysis of human milk, he prepared a patent food which, he thought, ought to be even superior to the original article; but his compound was never absolutely fresh, and, when reared on it, infants were apt to grow weak and flabby; most likely it contained some starchy element which found no representative in human milk; he might almost as well put in fine sawdust.

He was apprehensive lest preserved milk should entirely usurp the place of fresh milk in the nursery. At present it was far too widely employed, and he entirely failed to see how it could form a more wholesome diet for infants—as some maintained it did—than the fresh article. He could no more believe this than that the adult would thrive better on tinned American meat than on fresh sirloin. For babies, cow's milk, which should be always fresh, should be mixed with an equal or *even greater bulk* of warm water, in which a lump of white sugar and a pinch of salt had been dissolved; the fresh milk was an excellent antiscorbutic, and was therefore always needed. Often, when he had been assured that cow's milk could not be retained by the infant stomach, he had been able to demonstrate to the contrary by mixing even as much as double the quantity of water with it. In summer lime-water might be added to the mixture.

As regarded feeding-bottles, Mr. Owen said that the old-

fashioned long straight one, with the short india-rubber nipple, and with no tube at all, was the best; and he wished that, in their search for the antique, mothers would revert to the ancient feeder. With this the infant could be fed only when the nurse had the bottle in her hand, so that the child's meals would be given at regular intervals and for a definite time, and under close watching. The very worst kind of feeder was that now in general use; he had heard it called by one well competent to form an opinion on the matter "the lazy nurse's bottle." It was not so easily kept clean as the slipper-bottle, and was liable to many and serious abuses. Infants should be fed at regular intervals, and if they vomit after their milk, they should be fed on smaller quantities, given at shorter intervals. As a rule, for the first month the bottle should be given every two hours, gradually increasing the interval to three and eventually to four hours. As time went on, less and less water should be added to the milk. Too often infants were fed simply because they cried. True, the infant has "no language but a cry," but the cry may mean that the stomach is already overloaded. Before the end of the first year infants should be entirely weaned from the bottle; they should then have daily a little undercooked meat pounded into a pulp, to which some gravy and salt have been added. Potato finely mashed and covered with gravy, an egg, or a little milk pudding, may vary the diet. But on no account should they be allowed any wine, beer, tea, or coffee, though they may have cocoa and milk. The meals should be given regularly; children should not be allowed to "pick" at bread and butter, cakes, and sweetmeats in the intervals.

Having criticised unfavorably the absurd fashion of bunching all the little child's clothes around the middle of its body, the lecturer pleaded that here, at any rate, there was great need for a "scheme of redistribution." The body should be evenly covered. Children could not be hardened by cold baths or by any other exposure to cold; only the very fit could survive such severe treatment. Like flowers and fruit, they loved warmth

and sunlight; and when he had a sick child under observation he made it one of his first cares to have the cot placed in a sunny part of the room. In England people did not seem to know the value of sunlight; the Italians did, however, and their common saying is to the effect that "where the sun does not go the doctor does." The sun's rays have a destructive influence on suspicious or baneful gases; but to such vapors children should never be exposed. No bath, sink or closet should be allowed near the nursery; many children fell victims to a neglect of this first law of domestic sanitation. Every thing about them should be sweet and fresh, and there should be no carpets nor bed or window-hangings to interfere with the free circulation of the air. On no account should the infant be taken to sleep in its mother's bed; the coroner for Central Middlesex holds a hundred and twenty inquests every year on infants who have thus perished. If the weather be very cold, a warm brick or bottle wrapped in flannel might be tucked in under the clothes of the cot. For insuring appetite, digestion, and sleep, the infant should be taken out of doors each day when the weather is fine; and every day, unless a bitter wind is blowing or it is foggy, the window should be thrown open for a while, as fresh air in the house is an absolute necessity. A well-managed babe should close its eyes as certainly as does a mechanical wax-doll as soon as it is laid down for sleep. The small hours of the night and the unhappy husband need never be disturbed by cradle-songs and lullabys. It was only a home-sick sugar-planter who cried "Rock me to sleep, mother!" and probably if an infant could speak it would never be heard repeating the request.

In conclusion, the lecturer likened his discourse to a badly-made net, in which the irregularly-sized meshes were represented by the many faults of omission and commission. Still, he did not fear the net breaking under the test of practical experience. Indeed, the greater the strain it was thus called upon to bear, the more productive would he consider this his cast. And he was of opinion that if the great Health Exhibition did nothing more than direct public attention to the unsatisfactory environ-

ment of hand-fed infants, history would still be fully justified in regarding it as one of the most important national successes of the nineteenth century.

THE HYGIENIC MANAGEMENT OF THE SUMMER DIARRHEA OF INFANTS.—Dr. J. Lewis Smith, Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, New York, writes as follows in the Archives of Pediatrics: One of the most important conferences in pediatrics ever held convened at Salzburg in 1881 for the purpose of considering the diet of infants. Among those who participated in the discussion were men known throughout the world as authorities in children's diseases, such as Demme, Biedert, Gerhardt, Henoeh, Steffen, Thomas, and Soltmann. None of the physicians present dissented from the following proposition of the chairman, that "all the advances made in physiology in respect to the digestive organs of children, only go to prove that the mother's milk is the only true material which is quantitatively and qualitatively suited to the development of the child, which preserves the physiological functions of the organs of digestion and, under favorable circumstances of growth, unfolds the whole organism in its completeness." All agreed that when the breast-milk fails, animal milk is the best substitute. Henoeh expresses the same opinion in his well-known treatise on Diseases of Children as follows: "Cow's milk is the best substitute for mother's milk during the entire period of infancy. I consider the administration of other substances advisable only when good cow's milk can not be obtained, or when it gives rise to constant vomiting and diarrhea."

The many infants' foods contained in the shops were considered by the Conference, and, in the words of the chairman, "Now and evermore it is unanimously agreed that these preparations can in no way be substituted for mother's milk; and, as exclusive food during the first year, are to be entirely and completely rejected." But, unfortunately, we soon learn by experience that animal milk, although it is the best of all substitutes for human milk, is, especially as dispensed in cities, faulty. It is digested

with difficulty by young infants, and is apt to cause in them diarrhea and intestinal catarrh. Therefore, in the hot months, its use is very prone to act as one of the dietetic causes of the summer diarrhea in infants exclusively fed upon it, unless it be specially prepared so as to more closely resemble human milk. The frequent unsatisfactory results of its use have led to the preparation of the many proprietary substitutes for human milk which the shops contain, and which have been so summarily discarded by the German Conference.

Of the many foods intended for the use of infants all, except such as consist largely or wholly of cow's milk, differ widely from human milk in their composition; and although some of them, as the Liebig preparations, in which starch is converted into glucose by the action of the diastase of malt, may aid nutrition and be useful as adjuncts to milk, physicians of experience and close observation will, I think, agree with the German Conference, that when breast-milk fails, or is insufficient, our main reliance for the successful nutrition of the infant must be on animal milk. Nestle's food, which consists of wheat-flour, the yolk of egg, condensed milk, and sugar, and which has been so largely used in this country and in Europe, is probably beneficial mainly from the large amount of Swiss condensed milk which it contains. Although the preference is to be given to animal milk over any other kind of food as a substitute for human milk, yet even when obtained fresh and from the best dairies, and properly diluted, it is very apt to disagree with infants under the age of one year, producing indigestion and diarrhea. The close resemblance in chemical character of cow's, ass's, and goat's milk with human milk would lead us to expect that either one would be a good substitute for the latter. The fact that the milk of these animals is apt to cause indigestion and intestinal catarrh, especially in the hot months when the digestive function of the infant is enfeebled from the heat, must be due to the quality rather than quantity of its constituents. The difference in quality of the casein of human and animal milk is well known, since that of human milk coagulates in the stomach in flakes,

and that of animal milk in firm and large masses. The German Conference saw at once the importance of the problem which confronted them, *i. e.*, how to modify cow's milk so that it bears the closest possible resemblance to human milk. They even discussed the difference of the milk of different breeds of cows, and the proper feeding and care of cows; but the most important suggestion made, and one which has already produced good results in this country and in Europe, and promises to be instrumental in saving the lives of many infants, who by the old method of feeding would inevitably perish, was made by Prof. Pfeiffer, of Weisbaden. I allude to the peptonizing of milk. The pancreatic secretion digests milk that is rendered alkaline, at a temperature between 100° and 150° F. Milk thus treated becomes, in from twenty minutes to one hour, thinner, resembling human milk in appearance, and if the peptonizing be continued beyond a certain point and is more complete, its taste is decidedly bitter. The process should be watched and the peptonizing suspended as soon as the bitterness becomes appreciable, for although more advanced peptonizing so changes the milk that it is more easily digested by the infant than when the peptonizing is partial, yet the bitterness which is imparted to it renders it very disagreeable as a dietetic preparation. Milk thus prepared closely resembles human milk in appearance, and its casein is so digested that it is either not precipitated by acids, or is precipitated, like that of human milk, in flakes. By this process a digested or an easily digested casein is produced instead of the casein of ordinary cow's milk, which produces large and firm masses in the stomach, masses which the digestive ferments penetrate with such difficulty that they cause indigestion, and appear in the stools as coagula of greater or less size. Pfeiffer pointed out that when peptonized milk is employed "the feces showed absolutely no trace of the white cheesiness." Milk thus prepared quickly spoils, and it is necessary to peptonize it in small quantities and often during the twenty-four hours.

In New York city, during the last year, peptonized milk has been employed largely as recommended by Pfeiffer, and with such

results as to encourage its further use. It is now used in the New York Foundling Asylum and the New York Infant Asylum. Five grains of extractum pancreatis (Fairchild & Co.'s) and ten grains of sodium bicarbonate are added to a gill of warm water. This is mixed with one pint of warm milk, and the mixture, in some convenient vessel, is placed in water kept at a temperature of 100° F. for one hour, or less time if it begin to be bitter, when it is placed upon ice to prevent further digestion. With some specimens of milk, especially at a temperature of 115° or 120° F., a half hour, or even less, is sufficient. This artificial digestion is arrested either by boiling the peptonized milk, which destroys the ferment, or by reducing its temperature to near the freezing-point, which renders it latent and inactive, but does not destroy it.

I need not add that placing the peptonized milk on ice is preferable to boiling it, since we wish the ferment to continue to act in the stomach of the infant. In the present state of our knowledge of infant feeding, therefore, we can recommend no better substitute for human milk than peptonized cow's milk.

Milk from healthy, properly-fed cows may be prepared without peptonizing so as to agree with many infants, except in the warmest weather, but is obviously less easily digested than peptonized milk. It should be diluted as follows, with water boiled so as to free it from germs: In the first week after birth, one fourth milk, with the addition of a little sugar. The milk should be gradually increased so that it is one third by the end of the fourth week; one half by the end of the third month; and two thirds to three fourths by the end of the sixth month. After the sixth month it is still proper to add one fourth water, but pure milk may be given. Water increases the urination. Before peptonizing was resorted to, which, as we have seen, digests the casein to a great extent, and changes that which is not digested so that it coagulates in flakes in the stomach like breast-milk, it was customary to use a thin gruel of barley or oatmeal in place of the water used for diluting milk; one heaped teaspoonful of barley-flour to ten tablespoonfuls of water make a gruel of proper

consistence. A little farinaceous substance added to the milk, by mechanically separating the particles of casein, tend to prevent their coagulation in large and firm masses. This was the theory which explained the beneficial action of the admixture. If for any reason peptonized milk be not employed, milk prepared in the way I have mentioned, by admixture with a farinaceous substance, is probably the next best substitute for human milk.

It is very important to determine when and how farinaceous food shall be given in this disease. It is well known that infants, under the age of three months, digest starch with difficulty and only in small quantities, since the salivary and pancreatic glands, which secrete the ferments which digest starch, are almost rudimentary at that age. But the artificial digestion of starch is easily accomplished. Among the last labors of the renowned chemist, Baron Liebig, was the preparation of a food for infants, in which the starch is digested, transformed into grape-sugar, and thus infants at any age, who are fed with it, are relieved of the burden of digesting it. The Baron led the way, which has been so successfully followed since, in the artificial digestion of foods. A considerable part of the starch in wheat-flour is converted into grape-sugar by the prolonged action of heat. I frequently recommend that from three to five pounds of wheat-flour be packed dry in a firm muslin bag, so as to form a ball, placed in water sufficient to cover it constantly, and kept over the fire three or four days. During the nights the fire may go out for a few hours. At the expiration of this time, the external part, which is wet, being peeled off, the remainder resembles a lump of yellowish chalk. The flour grated from it gives a decided reaction of sugar by Fehling's test. Starch is also quickly transformed into glucose by the action of the diastase of malt, which indeed Liebig employed. If to a gruel of barley-flour, oatmeal, or other farinaceous substance, when hot, a little of a good preparation of extract of malt, as that prepared by Trommer & Co., at Fremont, Ohio, which acts promptly, or by Reed & Carnrick, be added, it becomes thinner from the conversion of

the starch into sugar. Farinaceous substances thus prepared may be used with peptonized or other milk.

Of the foods contained in the shops, which have been most employed, and which have apparently been useful in certain cases, I may mention those which have been prepared according to Liebig's formula, of which there are several, and Nestle's lacticous farina. In the use of those foods which contain no milk, as Ridge's food, imperial granum, etc., it is recommended that milk be added; while for such as contain condensed milk, as Nestle's, and the Anglo-Swiss milk-food, only water should be employed. The Anglo-Swiss food contains about sixty per cent condensed milk and about twenty per cent each of oatmeal and Russian wheat-flour. It gives an acid reaction, unlike Nestle's, which is alkaline. When Biedert's *creme conserve* was announced, great expectations were awakened from the fact that the inventor is an authority in pediatrics, but unfortunately they have not been realized in this country. Much of Biedert's conserve when it reaches us is spoiled, and the directions for its use are too complicated for ordinary families, since a different mixture is required for each month. I have prescribed this food, but, with Henoch, "could not convince myself that it is more efficacious than cow's milk."

Condensed milk is largely used in the feeding of infants. The milk is condensed under vacuum to one third to one fifth its volume, heated to 100° C. (212° F.), to kill any fungus which it contains; and thirty-eight to forty per cent of cane sugar is added to preserve it in cans. In the first month one part of the milk should be added to sixteen of water, and the proportion of water should be gradually reduced as the infant grows older. The large amount of sugar which condensed milk preserved in cans contains renders it unsuitable in the dietetic rôle of the summer diarrhea of infants. The sugar is apt to produce acid fermentation, and diarrhea in hot weather. Borden's condensed milk, fresh and dispensed from the wagons, contains, I am informed by the manager, no cane-sugar or other foreign substance, and on this account is to be preferred. It is cow's milk

of good quality, from which seventy-five to seventy-nine per cent of the water has been removed under vacuum. The sole advantage which it possesses, and it is an important one, is that it resists fermentation longer than the ordinary milk.

To select the best food for the infant from this considerable number of dietetic preparations is one of the most important duties of the physician. If called to an infant unfortunately deprived of wholesome breast-milk, and suffering in consequence from indigestion and diarrhea, what diet shall we recommend? My recommendation would be as follows: Use cow's milk of the best possible quality, and peptonized in the manner stated above, and peptonized in small quantity at a time, as a pint, or, better, half a pint. This may be the sole food till the age of five or six months. Farinaceous food can be allowed in addition even to young infants, if a considerable part of its starch be converted into glucose. My preference as regards farinaceous food is for the wheat-flour prepared by long boiling. For infants under the age of six months, one tablespoonful of the flour thus prepared should be mixed with twelve tablespoonfuls of water, and heated. To one teacupful of this, one half-teaspoonful of the extract of malt (as Trommer's extract prepared for children) should be added. The diastase of the malt quickly converts a considerable part of the starch that has not already been converted by the boiling into glucose. The glucose renders it sweet and palatable, and a little salt should be added to it. It does not seem to mix well with peptonized milk, and can be given separately through a nursing-bottle. I usually make it the vehicle for the brandy or whisky which infants with diarrhea usually require. It is also a good vehicle for albumen. If the digestion of the infant be feeble, as in atrophic cases, and it seems to require more nutriment, the white of the fresh egg mixed with the food aids in supplying the deficiency, and it is easily digested even by atrophic infants.

Beef, mutton, or chicken tea should not be employed, at least as it is ordinarily made, since it is too laxative. Occasionally for the older infants the expressed juice of beef, raw

scraped beef, or beef-tea prepared by adding half a pound of lean beef finely minced to one pint of cold water, allow it to stand cold half an hour, and then warm it to a temperature not exceeding 110° for another half hour. By this process the albumen is preserved. Salt should be added to it, and I am in the habit of adding to it also about seven drops of dilute muriatic acid to facilitate its digestion. It is chiefly for infants over the age of ten months that the meat-juices are proper.

But since one of the two important factors in producing the summer diarrhea of infants is foul air, it is obvious that measures should be employed to render the atmosphere in which the infant lives as free as possible from noxious effluvia. Cleanliness of the person, of the bedding, and of the house in which the patient resides, the prompt removal of all refuse animal or vegetable matter, whether within or around the premises, and allowing the infant to remain a considerable part of the day in shaded localities where the air is pure, as in the parks or suburbs of the city, are important measures. In New York great benefit has resulted from the floating hospital, which every second day during the heated term carries a thousand sick children from the stifling air of the tenement houses down the bay and out to the fresh air of the ocean. But it is difficult to obtain an atmosphere that is entirely pure in a large city with its many sources of insalubrity, and all physicians of experience agree in the propriety of sending infants, affected with the summer diarrhea, to localities in the country which are free from malaria and sparsely inhabited, in order that they may obtain the benefits of a purer air. Many are the instances each summer in New York City of infants removed to the country with intestinal inflammation, with features haggard and shrunken, with limbs shriveled and skin lying in folds, too weak to raise or at least hold their heads from the pillow, vomiting nearly all the nutriment taken, with stools frequent and thin, resulting in great part from molecular disintegration of the tissues—presenting, indeed, an appearance seldom observed in any other disease except in the last stages of phthisis—and returning in late autumn with the cheerfulness,

vigor, and rotundity of health. The localities usually preferred by the physicians of this city are the elevated portions of New Jersey and Eastern Pennsylvania, the Highlands of the Hudson, the central and northern parts of New York State, and Northern New England. Taken to a salubrious locality and properly fed, the infant soon begins to improve, if the disease be still recent, unless it be exceptionally severe. If it be a protracted case improvement may not be immediate, but it will usually appear in the course of a week.

An infant weakened and wasted by the summer diarrhea, removed to a cool locality in the country, should be warmly dressed, and kept indoors when the heavy night dew is falling. Patients sometimes become worse from injudicious exposure of this kind, the intestinal catarrh from which they are suffering being aggravated by taking cold, and perhaps rendered dysenteric.

Sometimes parents, not noticing the immediate improvement which they had been led to expect, return to the city without giving the country a fair trial, and the life of the infant is then, as a rule, sacrificed. Returned to the foul air of the city while the weather is still warm, it sinks rapidly from an aggravation of the malady. Occasionally the change from one rural locality to another, like the change from one wet-nurse to another, has a salutary effect. The infant, although it has recovered, should not be brought back while the weather is still warm. One attack of the disease does not diminish, but increases, the liability to a second seizure.

TREATMENT OF PUERPERAL FEVER BY COLD BATHS.—Professor Vincent (Lyons) said (1) that the administration of cold baths was practicable with the recently delivered attacked with puerperal fever; (2) that cold baths were free from danger in the puerperal state; (3) they had a certain and quick antifebrile effect in the sequelæ of delivery; (4) recovery from puerperal fever was the rule with treatment by baths of proper temperature and methodically administered; (5) cold baths were indicated in

all high temperature forms of after-complications of childbirth, the very acute peritonitis excepted. The indication for cold baths did not arise except where the fever was kept up, without notable morning remission, to about 40° C., when the powerlessness of quinine and diffusible stimulants in full doses had been shown, and when, in fine, the lochia was fetid and intra-uterine injections had been carefully tried without bringing a fall in the febrile condition. (6) Cold baths should be administered at a temperature varying from 28° to 18° C.; according to the fall secured by the first bath given at 28° or 30° , the temperature of the subsequent baths should be reduced. (The rule was, to get with a cold or tepid bath a fall of from one to two degrees of the patient's temperature.) The method used in typhoid fever, treated by cold baths after the system of Dr. Brand, should be followed, with modifications. (7) The cold baths were repeated every three hours until the temperature had fallen to 38° , and stayed there, with only ascending oscillations of some tenths in the evening. (8) When baths of 18° or 20° C., repeated every three hours, night and day, did not bring about a notable reduction of temperature, a large ice-bag should be placed, in the intervals of the baths, on the abdomen of the patient. (9) Along with cold baths and ice-bags, spirits and tonics should be freely administered; the patients should be fed with liquid or semi-liquid foods, having much nutriment in a small bulk—soups, beef-tea, American broth, milk, etc. (*British Medical Journal*.)

SYLLABUS OF THE TREATMENT OF CRANIAL FRACTURES.—The Polyclinic contains the following from that high surgical authority, Dr. John B. Roberts: In the June number of *The Polyclinic* I expressed myself in favor of a more frequent adoption of trephining in cranial fractures. In the present paper I shall give a tabulated statement of what is, in my judgment, the proper treatment for each variety of such fractures. I admit that the line of treatment advocated is more heroic than that generally taught, but it has been accepted only after careful con-

sideration of the reasoning of those who hold the opposite opinion to my own. Every case must be individually studied, and the patient's chances of death, of life with subsequent epilepsy or insanity, or of return to perfect health, carefully weighed; but for a working rule to guide the student and practitioner, I think experience will show that the indications given in the table are correct. Trephining, properly performed, is in itself so free of danger that in a doubtful case the patient had better be trephined than allowed to run the risk of death, epilepsy or insanity.

The Syllabus of the Treatment of Fractures of the Cranium is as follows:

Simple Fissured Fractures. (1) No evident depression, no brain symptoms. No operation. (2) No evident depression, with brain symptoms. Incise scalp and trephine. (3) With evident depression, no brain symptoms. Incise scalp and possibly trephine. (4) With evident depression, with brain symptoms. Incise scalp and trephine.

Simple Comminuted Fractures. (5) No evident depression, no brain symptoms. Incise scalp and probably trephine. (6) No evident depression, with brain symptoms. Incise scalp and trephine. (7) With evident depression, no brain symptoms. Incise scalp and trephine. (8) With evident depression, with brain symptoms. Incise scalp and trephine.

Compound Fissured Fractures. (9) No evident depression, no brain symptoms. No operation, but treat wound. (10) No evident depression, with brain symptoms. Trephine. (11) With evident depression, no brain symptoms. Possibly trephine. (12) With evident depression, with brain symptoms. Trephine.

Compound Comminuted Fractures. (13) No evident depression, no brain symptoms. Probably trephine. (14) No evident depression, with brain symptoms. Trephine. (15) With evident depression, no brain symptoms. Trephine. (16) With evident depression, with brain symptoms. Trephine.

Punctured and Gunshot Fractures. (17) In all cases and under all circumstances. Trephine.

In classes 3 and 11 I should be inclined to trephine if the depression was marked, or the fissures sufficiently multiple to approach the character of a comminuted fracture.

In classes 5 and 13 I should trephine, unless the comminution was found to be inconsiderable.

The operation, when decided upon, should be performed at once, or certainly not delayed more than a few hours.

All cases, whether trephined or not, should be treated as cases of incipient inflammation of the brain.

ALBUMINURIA.—The principles which should govern the treatment of this disease are thus announced by Dr. George Johnson, in a paper opening the discussion of the subject before the recent meeting of the British Medical Association:

Principles of Treatment. One of the main principles in the treatment of albuminuria is to lessen, as far as possible, the work of the kidneys, and to obtain for them physiological rest. Among the most efficient means for obtaining this object, are rest in bed in all acute and severe cases, the promotion of the secretions of the skin and bowels, and, above all, a scanty diet, with entire abstinence from alcoholic stimulants. An exclusive milk-diet is often most successful in the treatment of recent acute cases; the plan being to give half a pint of milk to an adult about every two hours, and to continue this diet until the urine has entirely ceased to be albuminous. It will sometimes be found that, when the albumen has disappeared while milk alone is being taken, a small meal of solid food, fish, or poultry, or mutton, excites a reappearance of albumen. The patient and the friends often look upon milk-diet as allied to starvation, and frequent requests are made for some addition to the dietary. In reply to these complaints and petitions, I am in the habit of quoting the case of a gentleman, a patient of my own, who, in 1873, at the age of 55, being seriously ill with disease of the kidney, the result of too generous living, was placed upon an exclusive milk-diet, which he continued uninterruptedly for a period of nearly five years, never taking even a biscuit or a

piece of bread, except when he was traveling and could not obtain milk. He lived in the country and kept his own Alderney cows, which gave milk so rich in cream that he found it necessary to have the milk skimmed in order to obviate his tendency to excessive obesity. His usual allowance was a gallon of skim-milk daily. During the fifth year of an exclusive milk diet he declared that he never felt better in his life; he was cheerful, slept well, and, at the age of sixty, was capable of taking a considerable amount of active exercise. After this he gradually added to his dietary by taking soup or beef tea and the yolk of an egg for breakfast. In 1879 he took meat once a day. Since then he has gradually returned to ordinary diet, and takes a glass or two of sherry a day. For six or seven years he had abstained entirely from alcoholic liquors. I last heard from him in October, 1882, when he reported that, with the exception of some soreness of the tongue and lips, he was in good health. He had learnt to test his urine, and found sometimes no albumen—never more than a trace.

ACUTE MANIA TREATED WITH HYOSCYAMIN.—Dr. C. Theodore Ewart, of Salisbury, England, reports in the *London Lancet* a number of cases of acute mania treated by hyoscyamin, and concludes as follows:

It is, I think, the better plan to give a large dose at once than to administer smaller ones at intervals; for in the cases which are most benefited by this drug the difficulty is to get the patient to take more than one dose, and to frequently disturb only tends to make his excitement greater. There is no danger in three-quarter-grain doses, nor is nausea or sickness produced. The pulse at first is very much quickened and stronger, and then gradually gets slower and loses strength. The face is flushed and the pupils greatly dilated by its stimulating action on the peripheral ends of the sympathetic. The breathing is in a few cases stertorous, but in the majority quiet. On waking, spectral illusions are apt to be present. When given in small doses the sleep procured is very restless and disturbed.

The conclusion I draw is, that hyoscyamin is undoubtedly of great service in those cases of mania where the patient is violent and can not be restrained. It is certain in its action; quieting the patient within a quarter of an hour after administration through its effect on the nervous system. The sleep produced is very deep, and the muscular power greatly weakened by its direct paralyzing action on the spinal cord. Whether this drug has any curative effect or not it would be difficult to say; but I imagine it is chiefly through the complete rest produced that its beneficial action is seen. There is no doubt that lengthened sleep in cases of acute mania does good, and the longer a patient continues in an acutely excited state the greater is the danger of permanent mental injury. After repose the patient awakes refreshed, and with greater strength to withstand mental excitement. An objection to the use of hyoscyamin is that it is so very expensive; I am therefore trying the far cheaper sulphate of atropia.

BROMIDE OF AMMONIUM.—This salt is comparatively little used except in association with the other bromides and with hydrobromic acid, and modern experience seems to indicate that it is perhaps not less used than formerly, but that in the increasing use of bromides this does not increase as rapidly as the potassium salt. The taste is much more disagreeable than that of the potassium salt, and becomes more disagreeable by prolonged use, and is more irritant and less acceptable to the stomach; in common with salines in general, it is best given in iced water. The dose is that quantity which will yield the desired degree of bromine effect. In some persons this may be ten grains three times a day, and in others fifty grains. For its full effect bromism must be induced, and the dose be then diminished so as to fall just short of that. For such use about twenty grains three times a day will be about the proper dose to begin with. Its principal use is in the treatment of epilepsy, but it is probable that the potassium salt is better adapted to this purpose.

The writer has treated successfully several cases of confirmed epilepsy by the potassium salt, but has had no personal experience with the ammonia salt, simply from having seen no indication for it in the presence of the other.

The prescription so commonly used in epilepsy, which originated with Brown-Sequard, contains both the ammonia and potassium salts, but it has not been proved to have any advantage over a simple solution of the potassium salt, while for prolonged use it has been said to disturb the stomach more.

In the prolonged use of any of the bromides there is a considerable advantage in adding a moderate proportion of hydrobromic acid, say five to ten minims in each dose, and continuing the addition for a month or so at a time, but returning to the simple solution from time to time. (Dr. Squibb.)

OPERATIVE OPENING OF PULMONARY CAVITIES.—Dr. E. Bull (Christiana), in a paper on this subject, laid down the following propositions: (1) Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema. (2) The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately. (3) Echinococci and (4) foreign bodies in the lung are to be treated in a similar manner. (5) In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition. (6) In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with a view of improving the condition of the patient. (7) The operative puncture of a pulmonary fistula is justifiable as a palliative measure. (8) In cases where diagnosis can not be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it. (9) Adhesion of the layers of the pleura ought not to be insisted on as an absolutely necessary preliminary to the opening of pul-

monary cavities. (10) Amyloid degeneration is not an absolute contra-indication to a palliative operation. (11) The use of the thermo-cautery is to be recommended both for the opening of cavities and for the destruction of diseased portions of lung-tissue. (British Medical Journal.)

THE EARLY PERFORMANCE OF OVARIOTOMY.—Mr. Knowsley Thornton (London) read a paper on this subject. He first considered whether it was ever right to interfere with an ovarian tumor by tapping or by aspiration. Spencer Wells, Keith, and Thomas were in favor of tapping; and many other leading ovariologists encouraged it. He gave quotations from Gross, Emmet, and Lawson Tait against the practice; and referred to the doubtful advantages claimed for this proceeding compared with its dangers and its immediate and remote mortality. He said that exploratory incision was far safer and better in doubtful cases. Tapping should be condemned except in some very rare cases. He would always remove an ovarian tumor as soon as it was large enough to be abdominal and slightly stretch the parietes. There were objections to operating earlier except in special cases. The danger lay in delay. Pathological changes in the cysts might lead to the escape of their contents, and to the formation of adhesions; or the pedicle might become twisted. He adduced illustrations of the dangers of delay drawn from over four hundred ovariectomies he had performed, including forty cases in which ovarian fluid was free in the peritoneum, and thirty-four cases of twisted pedicle. He then summed up by considering the following questions: (1) Is tapping ovarian or parovarian cysts, or cysts of the broad ligament ever justifiable; and if so, what conditions justify it? (2) Can any fairly general and defined rule be laid down as to the proper time at which to perform ovariectomy; and if so, what conditions justify an earlier or later operation? He concluded by appealing to the profession to still further improve the brilliant results of ovariectomy by condemning tapping and supporting early ovariectomy. (British Medical Journal.)

Notes and Queries.

Editor American Practitioner:

MURIATE OF COCAINE AS A LOCAL ANESTHETIC.—I hasten to make inquiries of the profession through the American Practitioner if they have had any experience with the muriate of cocaine as a local anesthetic. Tuesday, I read, in a letter written by Dr. Noyes to the New York Medical Record, of the wonderful effect in this respect, displayed by this drug when used topically to the eye. I have been using it internally for some weeks for asthenopic or painful and weak eyes. Its effect therapeutically is a nerve stimulant and food. It is the active principle of cocoa. Wednesday morning last I had a case of convergent squint, in the person of a nervous young lady from Texas. On the upper lid of the right eye, that is the eye to be operated upon, was a painful sty. I procured of Mr. J. A. Flexner a two-per-cent solution of the drug, manufactured by Merck, of Darmstadt. I put two drops of this in my patient's eye, and in ten minutes repeated it. In about twenty-five minutes from the first application I commenced my operation. She did not flinch. I believe she could have held the lids open without the speculum. She said it did not hurt her a particle. The eye felt dead to her as if it would fall out of its socket. Dr. Noyes stated that the drug had no effect upon the pupil. This dilated my patient's pupil to the fullest extent in a few minutes. The bottle was clean, and I used one of four new droppers just purchased. I do not know whether accommodation was affected or not. She reported to me this (Thursday) morning, about twenty-six hours after the operation, with the pupil normal in size. It is true this is but one case, yet it is of great interest. I report it with the hope of extending its use, and thus gather many cases. Within the next

month I have engaged several cataract extractions, and iridectomies, and I expect to give muriate of cocaine a thorough trial.

It seems to me to open a wide field for experimentation. In neuralgias, etc., if it will do what we now claim for it, it will be to ophthalmic surgery more than either chloroform or ether.

W. CHEATHAM.

LOUISVILLE, KY., October 16, 1884.

Editor American Practitioner:

TYPHO-MALARIAL FEVER.—We are having some cases here of what is known as typho-malarial fever; a disease, as you no doubt know, which differs very much from the old type of typhoid fever. Of this, the old type, I have not seen a well-marked case in several years; I mean such as prevailed twenty years ago.

The disease, as we have it now, commences like remittent fever, soon becoming continued. The tongue is generally large, not red and pointed; the pulse fuller than the typhoid fever, the bowels less tympanitic, and generally, also, less tendency to diarrhea. The treatment seems to be not so well established as for typhoid fever. Under our present mode of treatment here, at least, it is more stubborn, and continues longer than typhoid fever properly so-called. I understand that there is much typho-malarial fever in your city. I would be glad if you could find time to give me, in detail if possible, the treatment which has been found most satisfactory in the management of the disease.

I notice in the medical journals various modes of treatment set forth, but each writer has his own special method, hardly any two alike, which, by the way, rather inclines me to believe that there is no well-defined mode of treatment. I think I have observed that veratrum viride is not of much service in this variety of fever, and that calomel is better borne than in the genuine typhoid fever; while quinine exercises but little control over its course unless it be given in the beginning of the disease.

I think I have, on more than one occasion, aborted an attack by quinine when given in large doses in the early stage.

GEO. Y. WOODWARD.

LOUISVILLE, MISS., September 29, 1884.

Our reply to the foregoing letter is contained in the following words of Prof. Roberts Bartholow:

TYPHO-MALARIAL FEVER.—In a paper read by Dr. Woodward before the International Congress at Philadelphia, in 1876, he said: "Is typho-malarial fever a special type of fever?—and I reply, unhesitatingly, that it is not. It appears to be probable that when the typhoid germ begins its development in the body, the phenomena caused by malarial infection, if it exists, subside. I have held that the only modifications in the symptoms which occur are the changes in the thermal line, and the more pronounced exacerbations and remissions the greater excursions of the temperature. I am by no means sure that this opinion is correct. The source of the error is so obvious, and mistake is so easily made, that it can hardly be doubted it often occurs.

"If the malarial poison remains in abeyance during the predominance of the typhoid action, there comes a time when it asserts itself. After the typhoid infection has spent its force, there occurs an intermittent, which may greatly prolong the convalescence if not recognized and effectively treated. In my experience, this intermittent succeeds to the typhoid in all cases in which a really active condition of the malarial poison exists. In the absence of such manifestation, we may well doubt that a malarial complication enters into the morbid complexus. Where the patient is simply affected by that which is styled 'chronic malarial poisoning,' the influence is insufficient to modify the typhoid process to an appreciable extent. If, however, the malarial infection is active, during the sway of the typhoid fever, it is either overpowered, or, at most, merely increases the daily thermometric range; but as the typhoid process subsides, then the malarial comes into play, and we

have a convalescence interrupted or protracted by an intermittent or remittent fever. Often, indeed, have I witnessed these phenomena." *

THE DEBT OF THE MEDICAL PROFESSION TO THE SCIENTIFIC INVESTIGATOR AND SPECIALIST.—Dr. John Crowell, of Haverhill, at the annual dinner of the Massachusetts Medical Society, spoke thus pleasantly to his text:

Mr. Chairman, an eccentric divine once said to his audience, "My hearers, there is a great deal of ordinary work to be done in this world, and, thank the Lord, there are a great many ordinary people to do it."

As one of the ordinary workers, I wish to say a word in behalf of this great majority, and express thanks to these *extraordinary* workers who do so much for us in the way of patient research and investigation.

I suppose we are all of us investigators in a small way. Joe Gargery said he was "oncommon fond of reading." Nothing pleased him more than to take a book or a newspaper, and sit down to a quiet reading. "Why, Pip," exclaimed Joe, "when you *do* come to a J and an O, and say at last, 'Here is a J O, Joe,' how interesting reading is!" And still, Mr. Chairman, we should be thankful that we do not have to enter the lists and fight the dreadful theories of germs and protoplasm and spontaneous generations that claim the attention of the profound scientist. We make free use of the results of these investigations, and are rich in the possession of treasures that come to us without the tedious process of exploration.

I do n't suppose there is much danger of our falling into the delusion of poor old Mr. Casaubon, in "Middlemarch," who, with his patient wife, was buried among the musty manuscripts of the Vatican Library, investigating his pet theories, where he was disturbed and awakened by his young nephew, fresh and

*Should our correspondent desire the very latest, and, we may add, the most practical and clearly defined views on this long vexed question, we refer him to Loomis's Practical Medicine, just issued by Wm. Wood & Co.

bright from Germany: "What are you doing here, uncle?" "Hard at work investigating," was the reply. "Why, my dear old uncle," said the nephew, "do n't you know that these moldy old manuscripts have long ago been translated by German scholars, and their treasures unfolded to the world?"

The scientists of to-day may be divided into two classes—first, those who teach that the most profound truth, both of biology and chemistry, is that life is the result of the aggregation of matter; and, second, those who hold that there is a principle, called *vital*, which exists within the protoplasm and gives it life. Without this principle, the protoplasm is dead, and, with it, the protoplasm is alive. These two phases of evolution occupy the thought and contribute to the discussions of learned bodies at home and abroad.

I do n't suppose, Mr. Chairman, that we shall all live to see these profound questions absolutely settled to universal satisfaction; but we can admire the scholarship that furnishes us with so much suggestion and so much interesting speculation.

The brilliant experiments of Lister and the introduction of the antiseptic method are great contributions to surgery. But this method has been sharply questioned; and recent experiments have shown that the Listerian precautions do not always suffice to keep out or to destroy the bacteria from surgical wounds.

How long and sharp and brilliant was the discussion between the German Liebig and the French Pasteur concerning acetic fermentation! And how vigorously did Pasteur measure lances with Pouchette on the great subject of spontaneous generation, and how persistent were the experiments of Pasteur to show admiring students the fallacy of his great competitor!

We must pay our respects to the specialist who deals with the more subtle forms of disease, and is able to treat obscure symptoms with intelligent and skillful results. This special practice forms an epoch in the history of medicine; and a noble army of enthusiastic young workers is found in all our large cities whose services are often of great value to us whose atten-

tion is given to the more general forms of disease. In this respect our profession has made effective advance in the study of pathological science; and the diagnosis of obscure diseases is one of the triumphs of the healing art. We also owe a debt of gratitude to the specialist for curing us of a certain kind of false modesty in charging professional fees. We country doctors were plodding along, in the old-fashioned way of small charges and long credits, after the fashion of this old bill which I show you, yellow with age, which belonged to one of my professional ancestors. On this bill we find a charge for a visit and medicine to Betsey, twenty-five cents, and visit, call, and medicine to baby, forty cents. Now, these charges became a sort of standard for those who came after this worthy old doctor, until our metropolitan brethren came to the rescue, who received the fee of fifty or a hundred dollars for a consultation with such a graceful nonchalance as to inspire us with great moral courage; so that now we venture to charge two dollars a visit, and from three to five dollars for a consultation.

DR. YANDELL'S LIBRARY.—The fine medical library of the late Dr. L. P. Yandell will be privately sold during the month of November. Purchasers can buy any single book not belonging to a series of volumes. These of course will be sold in sets. The books have been appraised at very liberal figures, carefully classified so as to afford no trouble in inspection, and will be sold at a bargain for cash. Dr. Yandell was well known as a lover of good books, and his collection will be found to contain, with the regular standard works, some rare and valuable specimens of medical literature. Among these may be mentioned certain quaint old volumes purchased by his father from the great library of the eminent Prof. Charles Caldwell.

TO PREVENT SORE THROAT.—A gargle made of strong black tea, and used cold, night and morning, is now the fashionable preventive in London against falling a victim to sore throat during the cold winds of spring, and similar "cold spells" at other times of the year.

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